F. Remarks

In response to the Office Action dated October 28, 2003, Applicant respectfully requests reconsideration of this application based on the foregoing claim amendments and the following remarks. Applicant respectfully submits that the claims as presented are in condition for allowance.

At page 2, paragraph 3 of the Office Action the drawings were objected to for various informalities. Applicant has amended the specification and the drawings to correct these informalities and submits that the drawings are now in acceptable form.

At page 2, paragraph 4 of the Office Action the specification was objected to because abstract of the disclosure. Applicant submits herewith a proposed new abstract to overcome the objection.

At page 4, paragraph 5 of the Office Action the disclosure was objected to for various informalities. Applicant has amended the specification to correct these informalities and submits that the disclosure is now in acceptable form.

At page 4, paragraph 6 of the Office Action claims 1-9, 11, 13, 15-20, and 29 are rejected under 35 U.S.C. §102(b) as being anticipated by Klatt (U.S. Patent No. 4,634,950). Applicant respectfully traverses the rejection.

Applicant has amended claim 1 to include "a second circuit in communication with and driving the first and second windings for controlling the rotational speed of the rotating stator magnetic field." With respect to claim 1, Klatt fails to disclose "communicating and driving" the stator windings of the machine as claimed in claim 1. Thus, the rotational speed of the stator magnetic flux disclosed in Klatt is not dependent upon the utility or any other frequency.

Therefore, Applicant submits that Klatt does not anticipate claim 1 and respectfully requests withdrawal of the anticipation rejection with respect thereto. Claims 2-5, 18, 19, and 29 depend from claim 1 and, therefore, the anticipation rejection with

respect to these claims also should be withdrawn. Claims 6-8, 11, 13, 15-17, and 20 are cancelled and, therefore, the rejection with respect to these claims is moot.

At page 6, paragraph 7 of the Office Action claims 30, 31, 41, 52, 53, and 54 are rejected under 35 U.S.C. §102(b) as being anticipated by Carr et al. (U.S. Patent No. 5,430,362). Applicant respectfully traverses the rejection.

With respect to claims 30, 41, 52, 53, and 54, the Carr et al. reference does not disclose: an "active control circuit" as recited in n claims 30 and 31; "active means for generating a rotating magnetic field" as recited in claim 52; and "active means for controlling the phase angle of the generated magnetic field" as recited in claims 53 and 54. Rather, the Carr et al. reference discloses passive rectifiers and windings disposed on the electromagnetic machine. The rotation of the shaft of the electromagnetic machine disclosed by Carr et al. when being used as a motor is entirely dependent upon the interaction of the passive windings #34 (rotor) and #36a-#36c (stator). (*See* Carr et al. at col. 7 lines 30-38, for example.) In contrast, the rotor of the motor claimed in claims 30, 41, 52, 53, and 54 will not rotate without active control of the rotor windings (*See* Figs. 11, 12, and 13 of the instant application, for example.)

Furthermore, the Carr et al. does not disclose: a "control transformer . . . for transmitting control information and power to the rotor" as recited in claim 30; a "plurality of control transformers . . . for transmitting control information and power to the rotor" as recited in claim 41; "means for controlling . . for transmitting control information and power to the rotor" as recited in claim 52; "means for transferring signals . . . for transmitting control information and power to the rotor as recited in claim 53; and "a plurality of means for transferring signals . . . for transmitting control information and power to the rotor" as recited in claim 54. Rather, the exciter, or rotary control transformer (#14) disclosed by Carr et al. is merely a device for transmitting power for "exciting" the windings to move power across an air gap to passive devices on the rotor. In contrast, the control transformers as claimed in claim 30 and 41, the means for

controlling recited in claim 52, and the means for transferring recited in claims 53 and 54, are for transmitting control information and power, either simultaneously as shown in Figs. 11, 12 of the instant application or for transmitting control information while a separate generating device provides the power to the rotor windings as shown in Fig. 13 of the instant application.

Therefore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 30, 41, 52, 53, and 54. Claim 31 depends from 30 and, therefore, the anticipation rejection with respect thereto also should be withdrawn.

At page 7, paragraph 8 of the Office Action claims 44-51 and 55 are rejected under 35 U.S.C. §102(b) as being anticipated by Ernest (U.S. Patent No. 5,105,141). Applicant respectfully traverses the rejection.

Applicant has cancelled claim 44 and combined it with claim 45. Claims 45 and 55, as amended, are not anticipated because Ernest fails to disclose "a wound rotor arranged to rotate relative to the stator . . . wherein the wound rotor further comprises a plurality of windings" as recited in claims 45 and 55. The electromagnetic machine disclosed by Ernest does not disclose a winding around a rotor that rotates. Although the motor (30) disclosed by Ernest is shown by a box, the rotor is not described and the windings are in mounted on the stator and not on the rotor. Furthermore, Ernest does not mention motor design except to note that the control circuit may be used on two or three-phase motors.

Therefore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 45 and 55. Claims 46-51 depend from claim 45 and, therefore, the anticipation rejection with respect thereto also should be withdrawn. Claim 44 is cancelled and, therefore, the rejection with respect thereto is moot.

At page 8, paragraph 9 of the Office Action claims 64, 72, and 74 are rejected under 35 U.S.C. §102(b) as being anticipated by Luce (U.S. Patent No. 5,754,420). Applicant respectfully traverses the rejection.

Claim 64 has been amended to recite "a circuit in communication with the stator driving alternating current" and claim 74 has been amended to recite a "means for supplying power to a second winding in communication with the stator driving alternating current," which is not disclosed in the Luce reference. Rather, Luce discloses a Rotating Field Transformer, which is different form the rotor claimed in claims 64 and 74. The device disclosed by Luce, through vagaries of power grid technology, allows magnetic flux vectors to vary in direction and magnitude thereby generating a torque. The rotor recited in claims 64 and 74, however, does not allow phase-imbalance along those lines. Thus the controlling "circuit" recited in claim 64 and the "means for supplying power" recited in claim 74 are in communication with the stator driving alternating current (from the stator) and the second winding (to the stator) and may not be linked only through the rotating shaft, as disclosed in Luce. Thus, although, Luce discloses a control circuit, its function is entirely different from the function of the "circuit" recited in claim 64 and the "means for supplying power" recited in claim 74. The control circuit in Luce is intended to provide or absorb torque from the rotating winding in the event of phase-shift whereas the "circuit" recited in claim 64 and the "means for supplying power" recited in claim 74 provide driving current to the windings in order to prevent phase-shifting.

Therefore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 64 and 74. Claim 72 depends from claim 64 and, therefore, the anticipation rejection with respect thereto also should be withdrawn.

At page 9, paragraph 10 of the Office Action claims 79-82 are rejected under 35 U.S.C. §102(b) as being anticipated by Ban et al. (U.S. Patent No. 4,645,991). Applicant respectfully traverses the rejection.

The Ban et al. reference discloses in the abstract two entirely different motors and shows that the invention applies to both of them. Neither of the motors disclosed by Ban et al., however, are "alternating-current driven motor[s] comprising a rotor having a

plurality of windings" as recited in claim 79. Rather, Ban et al. discloses either an alternating-current driven permanent-magnet rotor motor or a direct-current driven motor with Y-connected armature coils. Neither of these motors alternating-current driven while including a plurality of windings on the rotor. Thus, claim 79 is distinguished from any motor disclosed by Ban et al.

Therefore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claim 79. Claims 80-82 depend from claim 79 and. Therefore, the anticipation rejection with respect to these claims also should be withdrawn.

At page 10, paragraph 11 of the Office Action claims 83 and 84 are rejected under 35 U.S.C. §102(b) as being anticipated by Rasmussen et al. (U.S. Patent No. 6,037,742). Applicant respectfully traverses the rejection.

Claim 83 is cancelled. Therefore, the rejection with respect thereto is moot. Claim 84 is amended to depend form claim 85, which is indicated as being allowable on page 12, paragraph 14 of the Office Action. Therefore, claim 84 is also allowable and the anticipation rejection with respect thereto should be withdrawn.

At page 11, paragraph 12 of the Office Action claims 86 and 87 are rejected under 35 U.S.C. §102(b) as being anticipated by Karagiannis et al. (U.S. Patent No. 5,867,023). Applicant respectfully traverses the rejection.

The method recited in claim 86 does not use the rotary transformers for position indication feedback. The invention recited in claim 86 requires a separate position feedback device 56. The rotary transformer recited in claim 86 is not for performing waveform monitoring because the controlling circuitry is deliberately affecting the signals and thus they cannot be used for position feedback. Thus, the Karagiannis et al. reference fails to disclose "transferring the analog waveforms to a primary portion of a rotary transformer; and transferring the analog waveforms across an air gap from the primary portion of the rotary transformer to a secondary portion of the rotary transformer," as recited in claim 86.

Therefore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claim 86. Claim 87 depends from claim 86 and, therefore, the anticipation rejection with respect thereto also should be withdrawn.

At page 12, paragraph 13 of the Office Action claims 75-78 and 88-98 are allowed.

At page 12, paragraph 14 of the Office Action claims 10, 12, 14, 21-28, 34-36, 69, 73, and 85 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Claim 10 has been rewritten in independent form to include all of the limitations of base claim 1 and is now in condition for allowance. Claims 12 and 14 depend from claim 10 and are therefore also in condition for allowance.

Claim 21 has been rewritten in independent form to include all of the limitations of base claim 1 and is now in condition for allowance. Claims 22-28 depend from claim 21 and are therefore also in condition for allowance.

Claim 34 has been rewritten in independent form to include all of the limitations of base claim 30 and intervening claim 31 and is now in condition for allowance. Claims 35 and 36 depend from claim 34 and are therefore also in condition for allowance.

Claim 69 has been rewritten in independent form to include all of the limitations of base claim 64 and is now in condition for allowance.

Claim 73 has been rewritten in independent form to include all of the limitations of base claim 64 and intervening claim 72 and is now in condition for allowance.

Claim 85 has been rewritten in independent form to include all of the limitations of base claim 83 and is now in condition for allowance. Claim 84 depends from claim 85 and is therefore also in condition for allowance.

Applicant is not otherwise conceding, however, the correctness of the Office's rejection with respect to any of the dependent claims discussed above and hereby

reserves the right to make additional arguments as may be necessary because additional features of the dependent claims further distinguish the claims from the cited references, taken alone or in combination. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

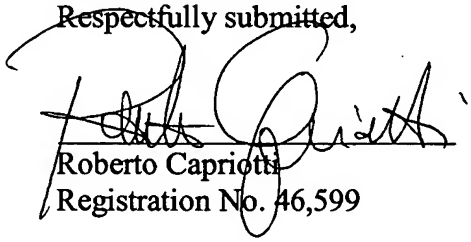
Newly presented claims 99 and 100 are in condition for allowance at least because of their dependency from claim 1, which Applicant submits is patentable based on the amendments and remarks above.

Newly presented claim 101 is in condition for allowance at least because of its dependency from claim 30, which Applicant submits is patentable based on the amendments and remarks above.

G. Conclusion

As all of the issues raised in the Office Action have been addressed, Applicant respectfully requests favorable reconsideration of this application and the issuance of a notice of allowance with respect to the pending claims. If the Examiner believes that the present application is in condition for disposition other than allowance, Applicant respectfully requests that the Examiner contact the undersigned at the telephone number listed below so that the examiner's concerns may be expeditiously addressed.

Respectfully submitted,



Roberto Capriotti
Registration No. 46,599

KIRKPATRICK & LOCKHART LLP
Henry W. Oliver Building
535 Smithfield St.
Pittsburgh, Pennsylvania 15222-2312

Phone: (412) 355-8956
Fax: (412) 355-6501